G. R. S. IX-5]

*Previous references.*

Preserve 8/1917

File No. 1114-15

Serial Nos. 1—8 + 11

**1917.**

(Sanitary)

*Later references.*

Sany 91-17 (4, 6688, 10, 13 & 19)

co 33-26(-17)

# GENERAL AND REVENUE SECRETARIAT.

P. 60 (E)

*Serial Nos.* 1—8 + 11 ✓

**Part B for** January 1917.

SUBJECT.

Proposals for the organisation of popular lectures in hygiene

G.O. No 4094-8.9.2.1.17.

Directs that the popular lecture scheme be worked out by the District Sanitary Officers, one or two model lectures being prepared by the Deputy Sanitary Commr. for guidance, and that a sum of Rs one thousand is sanctioned and placed at the disposal of the Committee for Supply Magic lantern and a number of well chosen slides on hygienic subjects to each of the District Sanitary Officers.

W D 83—GPB—50,000—24-7-16

Agree
HS 2.17

G. R. S. 11] 1915-16

GENERAL AND REVENUE SECRETARIAT.

( Sanitary

NOTES.

File No. 114-15

FILE HEADING.

Organisation of popular lectures in Hygiene

From

The Sanitary Commissioner

No. 3538 Dated 11.3.16 Received 14.3.16

| Diary No. 3340 | Enclos. | Spare Copies. | Serial No. 1 |
|---|---|---|---|

BRIEF ABSTRACT OF LETTER.

Submits proposals for the organisation of popular lectures in Hygiene.

NOTES AND ORDERS.

The Sanitary Commissioner suggests the formation of a Committee consisting of the Inspector General of Education, the Secretary to the Industrial Economic Conference the Director of the Public Health Institute & the Dy Sanitary Commissioner to arrange for the preparation of popular lectures on

NOTES—First Sheet.

| Serial No. | |
|---|---|
| | health subjects, to issue leaflets & pamphlets for publication. He also suggests that each of the District Sanitary officers may be supplied with a magic lantern and a number of well chosen slides at an initial cost of Rs 300/- each and a recurring expenditure of Rs 50/- for each officer. |
| | 2. The question of the training of leaders in Hygiene is being dealt with in Rr VI. |
| | 3 Draft requesting the Sanitary Commr to forward a copy of the Madras Govt order, Ms 2.2094 of 4-20. Nov 14 referred to in the letter under disposal is submitted. |
| | 22.3.16 4) Approved 24/3 23/3 |
| 2 | 5) To the Sanitary Commissioner. No. 7259 dated 28-3-16. Requested him to forward for reference a copy of Madras Govt order referred to in Cl. 1. |
| 3 | 6 From the Sanitary Commissioner, No. 4598/205/a Forwards copy of the Madras Govt. order, dated the 20 November 1914, approving the revised syllabus of popular lectures on Sanitary subjects. 7 If approved, the file will be submitted to note on the disposal of the question of training |

NOTE—Contn. sheet.

Serial No.

of teachers in Hygiene. (Vide para 2 supra)
Submitted for orders.

21.5.16
27/5

8) Please see last sentence in para 5 of the San[t] Comm[r]'s letter. - The proposal & the Madras [and] Bomb[y] may be forwarded to the Secy. E.S. Chi., Ex. Comtee for consideration & suggestions. Then the file may be referred to [the] S. Ed[n] Committee on [the] question of training of teachers in Hygiene -

11/6-16

9) Submitted

13.6.16
15/6

Extraordinary Member 17/6-16

10) The matter may be referred to the Education Committee of the Economic Conference. Draft approved.

11) In the meantime, I do not see why a Committee should not be formed and action taken as suggested in para 3 of the Sanitary Commissioner's letter -- dated 11th March 1916.

12) The Sanitary Commissioner or the Committee - may be asked to submit, when the scheme comes into

NOTE—Contn. sheet.

Serial No.

operation, a monthly report showing the number of lectures delivered by each of the Sanitary Officers during the previous month.

Noted
18.6.16.

13) John D/C/ app. draft with further draft as per above order
20/6
20/6-16

4 14) To the Secretary, Education Committee, Economic Conference. No. 9410 dated 26.6.16.

Forwards copy of Sl. 1 for consideration & suggestions and also a copy of the Madras Govt. order received with Sl. 3 which may be returned when done with.

11/7

15 Draft submitted with reference to para 3 of the note. It is a point for consideration whether the draft may issue after reply is received from the Secretary, Education committee.

29.6.16
1/7

Extraordinary Member 6/7/16

16) Draft approved by the Extraordinary member.

10.7.16.

Issue
11/7

17) John D/C
11/7/16

2. Does not seem necessary to write.

NOTE—Contn. sheet.

858

(5

G. R. S. 12]

General and Revenue Secretariat. San. File No. 114 of 1915-16

| Serial No. | |
|---|---|
| 5 | 18) To the Sany Comr., the Dy of Education, the Secy Economic Confce & the Director of the Public Health Institute & Dy. Sany. Comr. Lr no. 412-5 dated 14-7-1916 Requests the Sany. Comr. to take necessary steps to organise the Committee & arrange to start the work as suggested in Il. 1 & submit when the Scheme comes into operation, a monthly report showing the no of lectures delivered by each of the Sany. officers, during the previous month. |
| 6 | 19 From the Secretary Education Committee, no. 9158 dated Stating that the proposals of the Sanitary Commr for the organisation of popular lectures in hygiene was considered at the meeting held on the 26 August and the Committee recommend the scheme be tried. Submitted with reference to paragraph 10 of the note 20. If approved, a copy of the Secy's letter will be forwarded to the San. Commr for information only with reference to Lr. no. 412-5/San. 14-15-5 dt 14. 7. 16. Extraordinary Member — |

9.9.16

21/9-16

NOTE—Contn. sheet.

GPB—70,000—17-12-15

G. R. S. 12]

General and Revenue Secretariat. From File No. 114 of 1915-16

| Serial No. | |
|---|---|
| 21 | Approved. The Sanitary Commissioner may also be asked to report the action taken to give effect to the scheme. K Raw 22-9-16. Secy 25/9 HP 25/9-16 |
| 22 | Draft submitted DJ 27.9.16 Secy 29/9 |
| 23 | Issued HP 30/9-16 |
| 7. 24 | To. The Secy Govt. in Mys one No. 2375 dy 18.10.16. forwards copy of letter No. 1915/E.C. dy 4.9.16 from the Secy, Edn Committee in the matter of organisation of lectures in Hygiene |
| 8 25 | From the Sanitary Commissioner, No. H.C 207-28 6.11.16. Reports that the 18th meeting of the Committee was held on the 8th August 16 and forwards a copy of the memo detailing the business transacted. 2. The Committee have resolved to request the District Health officers to deliver a lecture in Kannada on one or more of the specified subjects. The Sanitary Commr suggests that the Director of Public Health Institute & Sanitary Commr should deliver the model lectures, as the lectures prepared by District |

NOTE—Contn. sheet.

1449 7

G. R. S. 12]

General and Revenue Secretariat. San File No. 114 of 1915-16

Serial No.

Sanitary officers will serve as lecturers.
Submitted for orders.

16.11.16

27/ The Sanl Comr states that lectures prepared by Dist: Sanl Officers, in accordance with the resolutions of the Committee, may serve as pamphlets for casual, desultory reading by the Public, and proposes that Model Lectures — to be prepared on the lines followed in Madras & intended to serve as models for adoption by itinerant lecturers & schoolmasters should emanate from the Public Health Institute.

Recd 18.11.16

17/11

Subl for orders.

M Mahadevappa
21.11.16

170
22.11.16

II Member)

28/ Whether the Govt sanctions the proposal?

29 The SE. Darwar & 2nd class Rs 100 as allowed by the Committee

30 There is apparently no harmony in the decisions

I am afraid till the Sanitary officers are re-appointed

NOTE—Contn. sheet.

GPB—70,000—17-12-15

G. R. S. 12]

General and Revenue Secretariat. Govt File No. 1/4 of 1915-16

Serial No.

The Scheme will work

Govt
11
Govt
2/19

3 Two points for decision are :—

(1) Regard^g the authorship of the lectures — whether they are to be written by D^t Health Officers as per resolutions of the Committee, or whether the Dep^t San^y Com^r should be required to write them as suggested by the San^y Com^r.

(2) Regard^g the purpose to be served by the lectures — whether they are intended for casual reading by the Public or to serve as models lectures to be adopted by the Educat^l department.

The San^y Com^r seems to require Govt orders on these points. Presumably he agrees with the resolution of the Committee to request Govt for Rs: 10000, since it is in accordance with his own proposals regard^g magic Lantern Exhibitions (vide para 4 of San^y Com^r Lr dt 11.3.1916)

T

Subm^d for orders

Dhanakoti

23.11.16

383
24.11.16

II. Member)
32 Public) Lecture Scheme
to be worked by Dist officers

NOTE—Contn. sheet.

GPB —70,000—17-12-15

1449

9

G. R. S. 12]

General and Revenue Secretariat. Sm File No. 114 of 1915-16

Serial No.

are the model lectures may be prepd by Dt S. Con. for guidance

33 The papers appended to may be scrutd if there is any in the budget 11 25-11

over 25/11.

34 Is there provision in the Budgt for this amount? Please reply to Bt

P. M. 27.11.16

Submitted

35 A provision of Rs 1500/- is made under the head "2 public Health Institute, 10 public lectures and demonstrations" in the current year's budget. The Sanitary Commr proposes that the total cost of Magic lantern & a number of well chosen slides to be supplied to each of the District Sanitary officers may be met out of the above provision.

7

A

28.11.16

Dc 30/11

36 Subt for orders with reference to para 33 above.

Dmahadevappa 3.12.16

158 5.12.16

II (Member)

37 Approved 4 7.12 over 7/12

38 Papers put up Draft

P. M. 8.12.16

NOTE—Contn. sheet.

GPB—70 000—17-12-15

4189-15
858
1449

G. R. S. 12]

10

General and Revenue Secretariat.

File No. 114 of 1915-16

| Serial No. | |
|---|---|
| | 39) Draft submitted<br>EK 9.12.16<br>11/12<br>40) Draft Sub[d] for favour of approval.<br>T Madhavaya 12.12.16<br>286/23-12-16. II (Member)<br>41) Issued 23/12-16 |
| 11 | To.<br>The Sanitary Commissioner<br>" Comptroller to Govt.<br>" Inspector-general of Education<br>" Secy to the Mysore Economic Conference<br>" Director of Public Health Institute & Dep Sanitary Com[r].<br>Directs that the popular lecture scheme should be worked by the D[d] Sanitary Com[r] Officers and sanctions a sum of Rs 1000/- for purchasing magic lanterns and slides of hygiene subject. |

NOTE—Contn. sheet.

GPB—70,000—17-12-15

D 3340

(11

Office of the Sanitary Commissioner,
with the Government of Mysore,

No. 3598

Dated, Bangalore, the 11th March 1916.

Sanitary 114-15-1

From

Rao Bahadur Rajakarya Pravina
T.V.Arumugum Mudaliar, Esq., M.B.C.M.,
Sanitary Commissioner with the Govt of
H.H. the Maharaja of Mysore, Bangalore.

To

V.R. Nyagaraja Iyer, Esq., M.A.,
Secretary to the Govt of H.H. the
Maharaja of Mysore, Rev.Dept. in charge
General Department, Bangalore.

Sir,

I have the honor to bring to your notice that the Madras Government have in their Order No.2094 L. dated the 20th November 1914, sanctioned certain arrangements for the delivery of popular lectures on sanitary subjects in the towns and villages of the Presidency. Model lectures are prepared by the Sanitary Commissioner and submitted for approval to Government who communicate them to the Local bodies and the Director of Public Instruction for necessary action. So far as I can make out from the Government Order the local School Masters are expected to deliver the lectures. The subjects on which model lectures have already been approved are the following :- Water, Food, Consumption, Dysentery, Guinea-worm, Cholera, Plague, Malarial Fever - Removal and disposal of waste matter, Hygiene in relation to buildings and streets, and, disposal of refuse.

2. The Inspector General of Education in forwarding a copy of the Government Order to me enquired if I could arrange for the lectures being delivered on the lines approved for adoption in Madras. As to the extent to which I might count upon the co-operation of the staff of the Education Department in Districts in practically carrying out any workable scheme for a systematic delivery of popular lectures the Inspector General states as follows : "If

GPb—50,000—26-4-15

From The Sanitary Commissioner in Mysore, Bangalore.

To The Secretary to Government, General Department, Bangalore.

Dated 11 MAR 1915

Despatched

Received

General No. 3598

No.

Enclosure No.

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Subject.

Submitting proposals for the organisation of popular lectures in Hygiene.

"If arrangements could be made through the agency of your Department for instructing the teachers undergoing training at the Normal Schools of Mysore, Bangalore, Tumkur, Kolar and Shimoga in the subjects selected for lectures, it would be possible to enlist the services of the teachers so trained for delivery of lectures in rural areas, Medical and Sanitary Officers taking up the work in urban areas". The question of the training of teachers in Hygiene forms part of a scheme for a systematic Medical Inspection of school children and school instruction in Hygiene, proposals in regard to which were, I understand, submitted to Government in April last.

3. At present it forms one of the most important duties of the District Sanitary Officer to lose no opportunity of imparting useful instruction to the people in sanitary matters. The Education Committee has appointed Itinerant Lecturers to disseminate useful information among the masses, Sanitation being also one of the subjects which the Committee think might be advantageously taken up by the lecturers. Leaflets and pamphlets on health matters are being brought out and distributed - And lastly, occasional articles by the Officers of the Department appear in the Mysore Economic Journal. Now, it seems to me that in order to secure the maximum output of effort and a corresponding degree of success in the results it is necessary to co-ordinate these various activities and place them on a proper, workable basis. Nothing would serve this purpose so effectively as the formation of a Committee consisting of the Inspector General of Education, the Secretary to the Mysore Economic Conference, the Director of the Public Health Institute and the Deputy Sanitary Commissioner. The functions of the Committee will be to arrange for the preparation of model lectures on health subjects, to pass leaflets and pamphlets for publication, and generally to consider all matters in which

interdepartmental

interdepartmental co-operation would further the object in view. The Director of the Public Health Institute and the Deputy Sanitary Commissioner will, as far as possible write out the model lectures and leaflets and pamphlets intended for distribution.

4. In making the above suggestions, I have not lost sight of the fact that the surest way of influencing the people in matters hygienic is to instruct the child. But for immediate progress it is also essential that popular co-operation in the sanitary measures initiated or directed by Government should be enlisted by a systematic and persistent attempt to instruct the adult public. The most important point to remember in connection with model sanitary methods is that that they are the outcome of a Science of comparatively recent origin and that the ideas proposed to be spread by means of lectures are such as cannot be referred to the fund of information possessed by the people. It is therefore absolutely necessary that every public lecture or informal talk should invariably be accompanied by Magic Lantern exhibitions and Demonstrations with the Microscope. I propose that each of the five District Sanitary Officers may be supplied with a Magic Lantern and a number of well chosen slides. The expenditure on this account is estimated to be as follows :-

| | Initial | Recurring |
|---|---|---|
| Each Magic Lantern with Acetylene burner & fittings complete (Newton & Co.,) | Rs.170 | |
| Slides | Rs.130 | Rs.50 |
| Total | Rs.300 | Rs.50 |

The total cost of five lanterns may be met out of the provision of Rs.1500 under "Public lectures and Demonstrations" in the budget for the coming year.

As regards Microscopes, a set of instruments, which for the present may form a nucleus, has already been sanctioned in Government Order No.3476-8/San.54-15-2 dated the 12th November 1915.

5. A most effective means of spreading information

is

is certainly the Cinematograph, if itinerant shows could be organised, the comic and other usual subjects being interspersed with Medical and Biological films, of which a number of good ones are on the market e.g. blood circulation, cholera bacillus, human blood, a drop of water as seen under the Microscope etc.,. The question may, I think, be referred to the Education Committee of the Economic Conference for consideration.

I have the honor to be,

Sir,

Your most obedient servant,

Sanitary Commissioner,

Encl to Jan 1916-15 SC 1/27 (15

Letter No. 3598 dated 11th March 1916 from the Sanitary Commissioner in Mysore to the Secretary to Government, General Department.

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taking

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|---|---|---|
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| S l i d e s. .. .. .. | " 130 | Rs. 50. |
| T o t a l... | Rs.300 | Rs.50 |

The total cost of five lanterns may be met out of the provision of Rs. 1500 under "Public lectures and Demonstrations" in the budget for the coming year.

As regards Microscopes, a set of instruments, which for the present may form a nucleus, has already been sanctioned in Government Order No. 3476-8/San.54-15-2 dated the 12th November 1915.

5. A most effective means of spreading information is certainly the Cinematograph, if itinerant shows could be organised, the comic and other useful subjects being interspersed with Medical and Biological films, of which a number of good ones are on the market e.g. blood circulation, cholera bacillus, human blood, a drop of water as seen under the Microscope etc., The question may I think, be referred to the Education Committee of the --- Economic Conference for consideration.

"C o p y"

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Enc. to Jany. 114-153.

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GOVERNMENT OF MADRAS.

--oOo--

Local and Muncipal Departments.

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| | | |
|---|---|---|
| Received | ) | Enclosures |
| | ) | |
| | x 1914 | |
| | ) | |
| Registered | ) | Spare copies. |

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G.O.No. 2094 L., dated 20th November 1914.

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Sanitation.

Approving the revised syllabus of popular lectures on sanitary subjects and the model lectures on water, food, consumption, dysentery, guinea-worm, cholera and plague forwarded by the Sanitary Commissioner, and requesting him and the Director of Public Instruction to issue the necessary instructions for starting the lectures.

No. 2094 L., dated 20th November 1914.

GOVERNMENT OF MADRAS.

Local and Municipal Department.

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Read - the following papers :-

1

G.O. No. 22 L., dated 3rd January 1913,

ABSTRACT. - Commending to all local boards and municipal councils certain recommendations by the Sanitary Commissioner regarding the remedial measures to be adopted in checking the spread of outbreaks of cholera.

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G.O. No. 720 L., dated 14th April 1914.

ABSTRACT. - Approving with remarks the model lectures on malarial fever and the syllabus of popular lectures submitted by the Sanitary Commissioner.

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111

Letter from the Hon'ble Mr. J.H.Stone, M.A., F.R.H.S., C.I.E., Acting Director of Public Instruction.

To the Secretary to Government, Local and Municipal Department.

Dated Madras, the 2nd September 1914.

No. - Ref. on Cur. 945/13.

With reference to the concluding sentence of G.O.No.720 L., dated 14th April 1914, requesting to report whether there would be difficulty in providing the magic lanterns necessary for carrying out the proposals of the Sanitary Commissioner to deliver lectures on hygienic subjects, I have the honor to report that the question of supply of lanterns presents no difficulty as those now supplied

to

(20

to the various educational officers and institutions are adequate to start the delivery of the lectures proposed by the Sanitary Commissioner.

2. District and other subordinate Medical Officers may be instructed to keep with them as many sets of slides as possible and lend them to the officers and teachers of this department whenever necessary.

---

IV

Endorsement No.4585 - 1 L., dated 10th September 1914.

Referred to the Sanitary Commissioner for remarks with reference to paragraphs one and two of G.O.No. 720 L., dated 14th April 1914.

( By Order )

C.S.Anantharama Ayyar
Under Secretary to Government.

To
The Sanitary Commissioner.

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V

Letter from Major W.A.Justice, M.B.C.M., D.P.H., I.M.S.,
Sanitary Commissioner for Madras.

To the Secretary to Government, Local & Municipal Department.

Dated - Ootacamund, the 25th September 1914.

No. D.2510/S.

With reference to endorsement No. 4585 - 1 L., dated the 10th September 1914, I have the honor to state that my reply to G.O. No.720 L., dated 14th April 1914, was forwarded to Government through the Director of Public Instruction, Madras, with my letter D No.2440/S., dated the 18th September 1914.

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VI

Letter from Major W.A.Justice, M.B.C.M., D.P.H., I.M.S.,
Sanitary Commissioner for Madras.

To

To the Secretary to Government, Local and Municipal Department(through the Director of Public Instruction).

Dated - Madras, the 18th September 1914.

No. D. 2440/S.

With reference to G.O.No., 720 L., dated the 14th April 1914, I have the honor to forward herewith a revised syllabus of popular lectures on sanitary subjects which, in my opinion, may be brought to the notice of the villagers. I am also to forward for such action as the Government may deem fit to take model lectures on the following subjects :-

(i) Pure water
(ii) Food
(iii) Consumption
(iv) Dysentery
(v) Guinea-worm
(vi) Cholera
(vii) Plague

Slides to illustrate the model lectres on "Pure water" will follow shortly.

2. Dr. Bartley, An Assistant Surgeon ( now attached to the Second District, Madras) is preparing the slides for me. He could multiply them or any professional photographer would undertake the work on payment. There will be no difficulty about this. The difficulty lies in obtaining specimens or photographs to illustrate local conditions. This takes time and can only be done when an opportunity offers. Dr. Bartley takes great interest in this work and may well be entrusted with it. He should be liberally remunerated for his trouble.

3. As to the magic lanterns required for the purposes, I would recommend the following outfit from Messrs Newton & Co., of 72, Wigmore Street, London, W.-

| | Price |
|---|---|
| A1 metal-bodied optical lantern (No.7996) with 6" double achromatic objective, acetylene generator (No.8080) high-power four-burner acetylene jets (no.8092) tray and top extra burners and pliers, connecting tubing, etc., in a portable case ... ... ... | £.7 - 7 - 0 |
| Tripod portable lantern stand with sliding legs, tilting screws etc., (No.8249) ... ... | 1 -15 - 0 |
| Portable screen stand (No.8256) for 7 feet screen with linen sheet ... ... ... ... | 1 -15- 0 |

There will be no difficulty in securing these: only they are somewhat costly.

4. I regret the decision of Government in paragraph 2 of G.O. No.720 L., dated 14th April 1914, in connection with the appointment of a special Indian Medical Service Officer to carry out the proposed scheme for the improvement of proper knowledge of the objects and requirements of sanitation. The alternative suggestion made in this paragraph is no doubt a good one, but I doubt whether it will be as effective as the one proposed by me. We may however give it a trial and see how it works.

---

Enclosures.
SYLLABUS.
A
1. H E A L T H.

Definition of health
" of disease
Causes of disease
Predisposing (examples)
Exciting (Physical injury)
(animan
(Vegetable
(poisons
) Parasites

Methods of spread.

Contact, direct and indirect, air-borne infection, water, food, flies, biting insects, examples.

Immunity - Natural -

How encouraged.

How diminished.

Acquired -

Anti-plague inoculation.

Vaccination.

11. Air

Composition -

How contaminated.

Respiration.

Combustion.

Decomposition.

How

How purified -

Plants.

Movements.

Rain.

Quantity required.

Diseases caused by impure air.

## 111. Food

Definition.

Quantity -

Effects of excess.

Effects of deficiency.

Quality -

Dangers of contaminated food.

Dangers of decomposed food.

Kinds of food -

Meat

Selection of animals.

Slaughtering

Sale

Cooking.

Milk -

Healthy animals to be used.

Milking.

Vessels.

Storage and protection.

Grains -

Sound and unsound.

Cooking.

Vessels.

Time and place of eating.

Hands of cook and consumer.

Vegetables -

Manuring.

Watering

" Freshening ".

Exposure for sale.

Cooking.

Alcohol and its effects.

Food, accessories, tea, coffee, condiments.

## IV. Water.

Importance of - as an article of diet.

Quantity.

Effects of ~~difficient~~ deficient supply.

Importance of pure supply.

Sources of supply.

Diseases spread by contaminated water.

How different sources may be contaminated.

Protection of supply.

Howwater may be purified -

i) In bulk

ii) In small quantities for drinking.

Protection during outbreaks of cholera &c.,

## V. Cleanliness.

(1) Personal -

Skin diseases.
Bathing.
Clothing.

(ii) Household -

Floors, walls, etc.,
Beds.
Vessels.
Cattle in houses.
House surroundings.

(iii) Village -

Removal of night-soil and rubbish.
Sullage water.
Manure.
Bad effects of a contaminated site.

## VI. Work and Exercise.

Good effects of.
Importance of regularity.
Effects of excess.

## VII. Alcohol as food.

VII Alcohol as food.

Its cost.

Effects of excess -

Toddy.
Arrack.

VIII Infant feeding (Women only).

Artificial feeding.
Milk.
Danger of raw milk.
Tinned milk.
Skimmed milk not suitable.
Excess of sugar
Dilution.
Precautions in using.
Care of eyes.
Vaccination.
Avoidance of overwork in growing children.
Care of health during pregnancy.
Child Birth -
Cleanliness.
Care of Infant.
Treatment of cord.
Care of eyes.
Lactation.
After-care of mother.

B

(i) Malaria, (ii) Plague, (iii) Cholera, (iv) Dysentery, (v) Guinea-worm, (vi) Small-pox and ~~INFECTIOUS-DISEASES~~ other infectious diseases, Vaccination and (vii) Consumption.

History.
Symptoms.
Cause.
Prevention.

Pure Water.

Water forms about two-thirds by weight of the human, and no animal can carry on its vital functions in a dry state.

Absolutely pure water in its chemical sense is extremely rare, and has only been obtained by repeated distillations in silver vessels.

When we talk of pure water in connection with its general uses, we do not mean chemical purity but that for all practical purposes it is free from noxious gases and injurious organic and metallic impurities and that it contains no excess of mineral ingredients although charged with a moderate amount of ordinary innocent

saline

saline matters and that is well aerated.

The importance of an abundant supply of good water cannot be over estimated; the mortality in India would be greatly reduced add the sickness proportionately, if we could always obtain a good water-supply.

Nature's method of purifying contaminated water is by evaporation and condensation. Water is evaporated principally from the tropical oceans and carried in clouds by currents of air, such as the monsoons, to be deposited as rain.

## Sources of Water.

Although the sources of ~~water~~ water are many and varied they are all ultimately derived from this natural distilled water which falls from the clouds.

Rain water, if we could collect this before it comes in contact with the earth and the dust and smoke of towns, would be good drinking water as it is naturally pure water but the supply is inconstant and cannot be relied on. A common practice in Cochin where good drinking water is scarce is to collect rain water in chatties and from the rain which falls on the cocoanut palms (show slide). In places where the water is very hard, rain water is collected in barrels for bathing purposes.

Upland surface water is rain which has fallen on land with little or no people living on it and the soil of which is but little cultivated. It is collected in tanks and lakes and stored for use. It is usually considered sweet water as it contains very little saline matter. The Ootacamund Water supply is an upland surface water.

Springs and Wells. - The rain water has here percolated through soil and subsoil and is by pressure forced to the surface through fissures in which state it is called ~~spring~~ spring water; or holes are articially sunk in the ground to form wells. The character of this water varies according to the nature of the soil through which it has percolated or passed. If it passes through lime stone it absorbes lime from the rock and is a very hard water

e.g.,

e.g., the water of Coimbatore. A hard water is one with which it is very difficult to form a lather with soap. Spring and well waters are usually sparkling and naturally pure waters. Shallow wells are those which have not passed through an impervious stratum. The water of such wells is organically impure. A surface well water is never safe however well its sides are cased with cement if there is any pollution of the soil within the area drained by the well. The more a well is pumped the greater its liability to pollution through suction. Wells in Indian towns frequently have drains, privies, cowsheds, etc., within a few feet ofthem and by soakage from them become polluted in consequence. Pollution of deep surface wells may take place from some considerable distance, the utmost distance may be reckoned at about half a mile.

SLIDE

Deep wells are wells sunk through an impervious layer to a water-bearing stratum; the sides of the well should be cemented from the top of the parapet wall down to the impervious stratum of clay or rock which covers the underground channel. Deep wells usually yield a fairly abundant supply but the water is hard and the cost of pumping considerable.

Tube wells have often proved very satisfactory. The supply of water afforded by them is of excellent quality and very cool. They are not suitable for every locality; hard strata of rock prevent the tube being driven down to reach the water. They are useful in dry deserted beds of rivers. They are liable to get choked with fine sand. They should then be taken up, cleaned and replaced.

River waters.- River water from large rivers if looked after and filtered is a good source of drinking water for a town. In India where many rivers are dry for a considerable part of the year a supply of water may be obtained by constructing a dam of a certain height across the river bed and so diverting the freshes when they come, into the settling tanks, as is done in Madras where almost the entire supply is obtained between the middle of October and the end of the year.

Infiltration

Infiltration wells and galleries are now placed in the water-bearing strata of river beds or underground-streams the water collected by pipes to a well whence it is pumped to a reservoir and distributed in pipes to drinking fountains.

So far we have learnt ~~then~~ the sources of pure water. Our great object should be how to maintain its purity after collection. Unfortunately it is almost impossible to persuade the people of this country that it is a dangerous or insanitary practice to wash their cloths, soiled perhaps with Cholera or Typhoid dejecta, on the top of the parapet of a well and allow the drippings to fall back into the well. This practice too you have all seen in the drinking water tanks in your villages.

Further the practice of drawing water from a well with a brass or other vessel which is cleaned by being scrubbed with earth from a dirty pond or from the road or anywhere with some moisture about is insanitary. The ropes also used for attaching the vessel are allowed to coil on the ground trodden with dirty feet around the well and at the next attempt to draw water the filth on the rope falls into the well. In the country troughs for water, cattle, etc., are placed against or near the well the contents of which percolate back into the ~~water~~ well. The throwing of stones, pieces of wood and fibres of all kinds into the well all tend ~~to~~ to pollute the water in it. The mother who is nursing her cholera-stricken child may rush to the well with a lota soiled with emanation from her patient, dip it into the well and cause an epidemic of cholera in the village. Where wells are scarce as in Bellary, water has to be distributed in water carts (show slide). You can see the waterman filling the cart at the well ans how he pollutes the water by using his hand as funnel. See also the rope coiled on the copping.

Step wells are very common in some parts of the Presidency and in such parts guinea-worm is very prevalent from people suffering from guinea-worm entering the well to draw water. A man once caused a very bad epidemic of cholera in a village by bathing his legs in a step well to soothe the

cramps

cramps he felt during an attack of the disease. These step wells should be avoided as sources of drinking water.

Wells are protected from surface drainage, that is washing from the surface of the land round about and from the rain carrying with it impurities from the surroundings of the well by a parapet wall and by being cemented on the inside right down to the summer or hot weather level of the water. For further protection a drain should always surround the well which should be extended to a carrying off drain atleast 50 yards from the well to carry away the spill water.

Undoubtedly the best method of protecting a well is to provide it with a pump and a cover. In this way no injurious pollution can take place and contamination by dirty vessels and ropes used for drawing the water avoided.

SLIDE

When a pump is used no receptable of any kind should be used to collect the water; the water should be taken from the pump direct. Sunlight has no direct action in water in a well and for complete protection of a well it should have a cover to keep out dust, etc.,. A properly constructed well fitted with a cover and provided with a pump will ensure a protected water-supply and the pollution of such a water will rest with the drawer of the water. The clothes and person of one who draws water should be perfectly clean and the vessels with which the water is taken should be scrupulously clean. They should not be cleaned by any sort of moist earth but should be scrubbed with a clean cloth and clean fine sand and put out in the sun to dry before and after use. Brass vessels as used in this country are difficult to keep clean and dirt is not easily seen on them. Glass and China vessels have not these drawbacks.

Vessels used for storing water inside dwelling house should have covers to keep out dust and other sources of pollution. It is the handling of water after it is drawn that causes most of the trouble that is attributed to drinking water.

To

To avoid this handling and contact with human beings generally, water is where possible distributed in pipes and taps direct to the consumer. Over a score of towns in Madras Presidency have a protected water supply distributed in pipes to drinking fountains throughtout the towns. To illustrate how even with such a supply pollution takes place through inadvertence. The Mallies' barrel at Ootacamund (show slide) kept full under the tap will show what actually takes place in many houses there. The moral to be gathered from this is always-draw the drinking water direct from the tap. If you are doubtful regarding the purity of your drinkin water you should boil it because boiling kills all the germs. In presence of an epidemic of cholera or typhoid fever all drinking water should be boiled. The only filters which are of any use for domestic purposes are the Berkfeldt and Pasteur-Chamberland but their candles or boujies should be taken out and boiled thoroughly twice a week which most people forget to do.

Hankinising a well. During epidemics of cholera much good has resulted from this method of treating wells. It consists in putting Potassium Permanganate in sufficient quantities to tint the water in a well a faint pink color. Put in at night, the water is generally clear by the morning and the injurious polluting matter has sunk with the Pottassium Permanganate to the bottom of the well.

## Food.

Food is necessary for all of us. Without food we should get thin and weak and after a short time we should die.

In children food is changed into the different body tissues and the result is growth. In children and adults food furnishes energy for work and play and for warming the body, just as coal and water enable the steam-engine to do work and give out heat.

However much coal and water you may give a steam-engine

it

it will not grow and if any part of the engine is worn, it must be mended or replaced by man. With our bodies it is different. As we work our tissues are constantly getting worn away and as long as we are properly fed new tissues are formed from our food to replace those worn out.

Our food then is destined to become part of ourselves: should we not take care to eat sufficient suitable food and to avoid any food which is not suitable ?

It is true we depend on food for our lives but it is also true that food brings disease and even death to many. I will now tell you some of the ways in which our food may harm us.

The first thing to consider is the quantity of food we she should eat. If we eat too little we get weak and thin. Too much ~~of~~ food may cause pain in the stomach., indigestion, diarrhoea or constipation, head-ache, excessive fat & disease of the liver, kidneys and other organs. Few persons willingly eat too little but many eat too much. We should eat only as much as we need and as much we can, stopping when our hunger is satisfied.

Our meals should be at regular fixed hours, small meals at intervals of about five hours being better than large meals at long intervals.

The next consideration is the quality of our food. Food which has been kept so long that it has gone bad is likely to be poisonous and may cause sickness and death. Even good fresh food may through our own fault become soiled with the little living organisms which cause disease. I shall now mention some of the commoner kinds of food and tell you how they may cause disease and what we should do to guard our health.

To begin with I shall take meat. Good meat must be obtained from a healthy animal which has been slaughtered and not from an animal which has suffered from or died of disease or old age. The killing and cutting up must be done in a place set apart which must be kept very clean. The meat when

exposed

exposed for sale should be protected from dust and flies because dust may contain disease-germs and flies may carry them and deposit them on food.

Meat which is going bad and has a bad smell should not be eaten. It is poisonous and cooking does not destroy the poisons. Meat which contains disease-germs may be made harmless by proper cooking. All cooked food is less likely to cause disease than raw food. Further, food should be eaten as soon as it is cooked because if kept and allowed to become cold, it is likely to be again contaminated by dust, flies, ~~di~~ dirty vessels or hands.

I shall now turn to milk. Milk from sick animals may cause disease. Only milk from healthy well-fed animals should be drunk. Animals should be kept clean and stables should be clean with plenty of light and air. The milkman should be healthy and wash his hands before milking. The vessels in which milk is received should be cleaned beforehand with boiling water and should be covered to keep out dust and flies. Dishonest milkman adds dirty water to milk and make it very dangeroues to drink. In this country all milk should be boiled before use and if kept in the house the vessel must be cleaned with boiling water before it receives the milk and must be kept covered in a cool part of the house afterwards. Tinned and condensed milk is usually unsuitable for children.

I shall now speak of ~~b~~ vegetables. Vegetables are often contaminated by the water used for their irrigation. After being gathered they are often dipped into dirty tanks or streams on the way to markets. In the market they are often kept on dirty ground and are open to contamination by dust, flies, dogs and the water used to sprinkle them. You will see how dangerous it is to use these vegetables raw. Proper cooking makes them safe. If they are to be eaten raw, they must be thoroughly washed in boiled water. If cholera is present only cooked vegetables should be eaten.

Rice

Rice alone is not sufficiently nourishing, but if mixed with ghee and meat ( or dhall and similar foods in those who eat no meat ) the mixture constitutes a good diet.

The rice should not be too new nor should it be mouldy or dirty from careless storage. All grains should be stored in a dry place carefully protected from rats and insects. When meat, dhall, eggs, etc., are made into curry by the addition of chillies and other hot substances and eaten with rice the mixture is tasty and more easily digestable. Rice must be well cooked so as to be quite soft.

Fruit, if unripe, or over-ripe, may cause indigestion or diarrhoea. Fruits sold in slices, such as melons etc., may cause cholera after being exposed to dust and flies. Sweets which are handled and sold amidst dirty surroundings are likewise unsafe. Cooked rice and all kinds of food bought in dirty bazaars full of flies are dangerous.

There is no time to include all the kinds of food but whatever kind of food you eat remember that if you wish to keep healthy you must -

(i) Eat a proper quantity of food.

(ii) Eat at regular fixed times. Eat slowly and masticate the food well.

(iii) Eat food which is sound and not that which is going bad.

(iv) Let only healthy persons with clean hands prepare and cook food.

(v) Clean all vessels with boiling water before and and after use.

(vi) Wash your hands before you eat.

(vii) Protect food from dust and flies.

(viii) Don't eat or keep food in a room where there is a sick person.

(ix) Don't keep food in rooms in which you live.

(x) Keep your house and its surroundings clean so that there will be few flies and little dust.

CONSUMPTION.

Air is necessary for the life of all animals, and man like the other animals must have a supply of pure air to maintain life. Air is taken in through the nose and mouth and thence it passes down a tube, the wind-pipe, to enter what are called the lungs. These are two large elastic bags, which lie one on each side in the chest, and when a man breathes, he draws air into them. The good fresh air is taken into the body from the lungs and bad air which has been used up by the body passes out again into the lungs, which now contracts and so expel the bad air and thus become ready to expand again and draw in another supply of the fresh air which the body needs. This drawing in of pure fresh air is so essential to life that even when a man is asleep or unconscious he must breathe or he dies. But for this process of breathing in fresh air to go on continuously it is not only necessary that the lungs should be strong but they must also mainatin their elasticity. Just as a baloon which cannot be filled with gas is of no use so a lung which cannot expand and contract is useless.

Consumption is a disease which attacks these elastic bags, the lungs, and prevents them from expanding and contracting properly. The disease is due to a very small "poochi" so small that it cannot be seen without the aid of a very strong magnifying glass. These poochies lodge on the walls of the lungs and work their way into the substance, here they multiply rapidly and by their irritation produce inflamation which causes the walls of these air bags to become thickened, so that they can no longer expand and contract. The poochies at first, perhaps only settle on one portion of the wall of a lung, but they multiply so rapidly that there is no room for them all in one place, so they travel along the wall and even go over to the other lung, also, so that though at first only a small portion of the wall of one of these air bags may be thickened and unable to expand yet, as the poochies spread

more and more of walls of these air bags become involved and thickened till at length the patient dies because his lungs can no longer expand and draw in the good pure air which is necessary for life: or the poochies may even eat their way through the walls of the air bags and what use is a baloon with a hole in it!

This disease, consumption, is very common in India. It generally begins with a cough because the lungs are trying to expel the nasty poochies, sometime the individual who is affected with this disease coughs up blood for these poochies eat their way into the substance of the lungs and so make them bleed. The consumptive also sweats very freely especially at night and rapidly loses flesh. Each time he breathes out the bad air from his lungs, or coughs, he expels into the outer air hundreds of these minute poochies and if other healthy people, members of his own family perhaps breathe in the air containing these poochies, they too will develop the disease. Therefore the consumptive should live apart from other people as far as he can do so. He should never sleep in the same room, especially with doors and windows closed as other members of the family or these too will surely get the disease. The consumptive coughs often and brings up phlegm. This phlegm also contains hundreds of these little poochies, and if the man spits on the floor of his house, the phelgm dries up and becomes dust and is blown about by the wind. The poochies go with the dust, for the drying does not kill them, and so enter the lungs of healthy people and given them the disease also. The consumptive should never spit on the floor but should spit into a piece of paper or rag whoch should afterwards be burnt to kill the poochies. The poochies of consumption do not like good pure fresh air, or sunlight. They live and grow much better in damp, dark, dirty, rooms where the air is not fresh but contaminated by the exhalations of several people. Plenty of air and light must therefore always

be

be allowed to enter the rooms. Consumption is a disease which can be cured only when it is in an early stage, not when a large portion of the lung or lungs are affected, so, as soon as the first symptoms of the disease such as cough and loss of flesh appear, the man (or woman) should go at once to a Hospital and so perhaps save his own life and prevent others of his family from catching the disease.

## Dysentery.

The digestive tract consists of a long tube which is not however of uniform diameter throughout its length. When we take food it passes down into the stomach which is the first dilated portion of the digestive tube; here it is acted on by the digestive juices of the stomach so that it can be absorbed into the body. It then passes on into the narrower longer portion of the digestive tube known as the small intestine and whilst passing along this, the food required by the body is absorbed through the walls and taken by the blood to the different parts of the body. But not all the food taken in by the mouth is absorbed; there is always a certain amount of residue which is not required by the body and which is indeed harmful to it. This residue passes into the next part of the digestive tube, the large intestine and here it remains and accumulates until expelled as faeces. This mass of faeces lying in the large intestine is very poisonous and if it could find its way through the walls of intestine it would be very injurious to the body. Dysentery is a disease which attacks this portion of the digestive tube - the large intestine. The disease is due to a very small poochie so small that it can only be seen by the aid of a powerful magnifying glass. These poochies thrive and multiply in the large intestine; once they have gained access to it they work their ~~int~~ way into the walls of the intestine and by their irritation set up inflammation and destroy the protective being of the digestive tube, and as a result of this, some of the poisons pass through the walls and into the blood or if the inflammation is very

severe

severe or lasts very long, portions of the walls of the large intestine are gradually eaten through, just as a pipe is corroded, and the contents escape into the body and so kill the individual.

The disease often begins with diarrhoea, several motions being passed daily, but very soon slime and perhaps blood too are passed and there is a great deal of pain on passing a stool. These symtoms are due to inflammation in the wall of the large intestine caused by the irritation of the poochies. On account of the irritation the large intestine contracts frequently and each time it contracts it expels some of the faeces lying in it, and with the faeces some of the poochies causing the disease. It is therefore very necessary that these stools should be destroyed so that the poochies may be killed and thus prevented from finding their way into other human beings. The stools must not be passed on the open ground where they may lie until a shower of rain comes and washes them away into the nearest river, tank or well the water of which is perhaps used for drinking purposes. If this occurs then the people who drink of this water will also develop dysentery. Another reason why stools must not be allowed to lie on the grounds is that flies will settle on them and the minute poochies will cling to the legs and wings of the flies which will then perhaps fly away and settle on some rice, conjee or milk in which the dysentery poochies will rapidly multiply so that when any one drinks this conjee or milk that person too will become infected with dysentery. Stools must always be destroyed by fire or buried in trenches in ground set apart for the purpose and the stools must be covered with a thin layer of dry earth. Dysentery is therefore a disease which can be spread from one person to another, and any one suffering from it is consequestly a source of danger to others and should seek medical advice at once, dysentery can generally be easily cured if treated as soon as it begins, but if allowed to become chronic it is very difficult to cure, as the walls of the large intestine become permanently injured and beyond repair.

Guinea-worm.

Probably many have seen people with guinea-worm being gradually extracted by twisting them around a small piece of stick.

These are the female worms 1-3 feet long, 1/10 inches in diameter containing a long narrow bag (the womb) full of minute invisible babies (embryos) in thousands. The head end comes to the surface and makes a little hole in the skin; if water be poured on the skin near the hole and the worm be watched, after a few minutes a drop of milky fluid comes out of the worm. This fluid is full of hundreds of babies (embryos). The tail end of the worm has a curved hook so that if the worm is pulled forcibly it will not come out but breaks off and all babies escape under the skin and cause much pain and irritation. If a man with a guinea-worm goes into water all the baby guinea-worms get into the water and swim about there. In the water they find small animal, some of them transparent about the size of a pin's head are called cyclops. The babies get inside the insect (cyclops) and live on it and grow strong and bigger at its expense. Then one day some one drinks the water and swallows these insects (cyclops). In the stomach the insect (cyclops) is killed and digested and the baby guinea-worms get out and crawl through the stomach wall. Then they crawl all about the body gradually growing bigger and after 10-12 months the females which are now full grown and full of babies come to the surface usually in the legs and make a small hole there. So you see that the popular connection of certain wells with guinea-worm is perfectly true.

Prevention is very easy; simply by filtering all drinking water through fine muslin, which is dried in the sun when not in use. In this way no insect (cyclops) can be drunk.

But you will ask would it not be better to prevent the water being infected. The answer is 'yes', of course; but

when

when you must stop people with guinea-worms from washing themselves in or near the drinking-water well. Indeed it is better that none at all should wash in or near the drinking-water well.

## C H O L E R A.

All of you have heard of and some may have seen this terrible disease which often kills numbers of people in a very few hours with dreadful pains, horrible diarrhoea and vomitting.

I want to show you how to prevent this disease from coming and how to prevent it from spreading to others as it usually does.

First you must know how it spreads.

Infective Agent.- Each person with cholera has inside them many millions of tiny invisible germs(vibros). These are discharged in the vomit and stools. If any of these tiny germs get into the water or food, they may be swallowed by some one and that man will then get cholera.

No. 2094 L., 20th November 1914.

Transference - (a) Water.- But you will say none could possibly drink or eat things polluted in this way. I will explain how this may happen. I must tell you that some people may get cholera very mildly like an ordinary attack of diarrhoea. Suppose some of these people wash themselves or their clothes at or near a tank or well; very soon a shower of rain comes and then these tiny germs are washed into the well or tank, so that people who drink out of that tank will swallow some germs and probably get cholera.

(b) Flies.- Sometimes also flies may settle on cholera vomit or stools and thus carry the tiny germs on their feet and settle on food, so that the food may now give cholera to those who eat it.

Prevention.- There are many ways you may use for preventing cholera.

(a)

(a) Personal.- It is necessary always to drink and eat clean food & water. To make the water clean and safe it should be boiled and then allowed to cool in a covered vessel. All food should be prepared at a distance from cholera cases so that cholera carrying flies cannot get at it.

(b) General prevention.- (i) Isolation.- All those people who have cholera should be separated from other people and arrangements made for looking after them and for destroying their stools and vomit.

(ii) Water.- Wells should be treated by adding a small handful (2 ounces) of permanganate of potash crystals and thoroughly stirring. If the water is still pink next morning, it may be used; if not pink more permanganate of potash must be added in the same way.

The pink permanganate crystals when dissolved in water are able to destroy the cholera germs and so make the water safe to drink. Of course this is only temporary and the water is only safe for about one day after purifying in this way. But you will ask is it not possible to make a well safe for always?. I will tell you how to do this.

Permanent prevention. Choose a good well, if possible 50 yards away from all houses and then brick it up and cover up the top completely, putting in a hand pump through a small hole in the cover. All drinking-water should be taken from this well and no other. If a pump cannot be got then a special bucket must be obtained and every day one man lets down and draws up the bucket with a rope and fills a large vessel or cistern full of water; this cistern has a tap from which each person can draw off drinking water as ~~they~~ he wants it. The bucket and rope should be kept for this purpose and no other. No person should ever be allowed to wash themselves or their clothes near this well, and children, beggars and cattle are not permitted to make messes anywhere near the well.

Treatment of Cholera cases The sick people must be kept quiet

quiet, at rest and warm, by wrapping them in blankets; hot clothes and rubbing with turpentine may be applied to the stomach to relieve the pains. To relieve the thirst, water made pink with permanganate may be given in large ouantities. Special pills of permanganate can be got at dispensaries to give to people with cholera. Other treatment can only be carried out by trained doctors and nurses.

Precautions for attandants. The attendants on the sick must wash their hands whenever they are dirty in water made pink with permanganate crystals; and arrangements should be ma made for them to prepare their food at a distance from the sick then after carefully washing themselves they can come and eat and afterwards go back to the sick people.

Disinfectants. Great care should be taken that all the stools and vomit of the sick people are each mixed with a handful of lime and then burnt in a fire. In this way the germs are killed and cannot cause the disease in others. Soiled clothes must be destroyed in the same way by burning.

You will see that for prevention permanganate of potash crystals are necessary and if cholera occurs a messenger should be sent at once to the nearest dispensary to get some but untill it comes all water should be boiled and the attendants must use boiled water to wash their hands.

## P L A G U E.

You all know what plague fever is but you perhaps do not know what brings it into your village, how you can tell whether any one has got plague, what you can do to keep it away or what you cando to cure it when your friends get this fever. I will tell you now something about it.

Perhaps you have noticed that the plague fever always comes in the cold months and fewer or no people get it in the hot weather. Why is this? The doctor sahibs have been trying to find out the reason for this and they saw when visiting villages that at the beginning of the cold weather the rats which kept away from peoples' houses during the hot weather began

to

to come to the houses again and live in the roofs and walls. The rats came to the houses because they got plenty of food there and outside there was none. The doctor sahibs also saw that just before the plague fever began in a village many rats died in that village and so they thought that rats had something to do with the fever the people got. They saw that the rats get plague fever and when they come to the houses bring fever with them. How do the rats bring the fever?. Well! On the rats you may see little fleas which bite the skin of the rat and suck the blood. When the rats run about among the clothes and food in the houses and when they die in the houses the fleas leave them. When the people lie down in the houses the fleas get on them and bite them and suck their blood and at the ~~same~~ time of biting put poison into the little wound. The people get the fever from the poison put into them by the fleas in this way.

You know there are many kinds of fever but in plague fever people always get a swelling in the groin or they get a bad cough and pain in the side and spit blood. From the swelling and bad fever you can say that a man has got plague fever.

To keep the fever away is the best thing to do. You must try to prevent the fleas from the rats biting you and to do that, you should try to prevent the rats from getting into your houses and from living in the roofs and walls and in clothes and among your bags of rice and grain. If you cannot do this very well, you should try to get all the rats in your village killed and it is no use killing rats in one house only but all the houses must be cleared at one time, for if not. the rats of other houses will come to the one that has been cleared and you will be no better off. You should also keep your village streets and the places around your houses very clean so that the rats will find nothing to eat there. If you would like it the Apothecary will bring sulphur and burn it in your houses. This kills all the fleas and will be of use if you kill the rats at the same time.

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When plague comes to a neighbouring village you should not allow any one from that village to come to see you as they will bring the fleas on their clothes and leave them in your houses and when they bite you, you will also get the plague fever. If you want to go to see any of your friends when they get plague fever and after you go back to your house you should take a bath and wash all your clothes and lay them out in the sun so that all the fleas that you may have got in your friend's house may be killed. If a man in your village gets w what you think is plague fever, you should tell the doctor saib at once and get him to come and help you to keep other people from getting it. All the people in the sick man's house should leave it and live in a hut out in the fields. The doctor sahibs have got a very good medicine to keep away plague fever and this medicine they put under the skin and if all the people in a village will have this done, plague fever will not come or if it does come, very few people will get it and nearly all that will get it will get better It is best to get this medicine injected before the cold weather begins each year as it is in the cold weather most plague fever comes. There will be no pain when the medicine is injected but only a little fever for one day afterwards. The medicine will certainly do you no harm.

Endorsement of the Director of Public Instruction, N. Ref. on Cur. No.945/13, dated 8th October 1914.

S u b m i t t e d.

2. The lectures will be instructed to present the various topics in language as simple as possible.

J.H.STONE.
Ag.Director of Public Instruction.

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Order No.2094/L. dated 20th November 1914.

The Government approve the revised syllabus of popular lectures on Sanitary subjects and the model lectures on Water, food, consumption, dysentery, guinea-worm, cholera and plague, forwarded by the Sanitary Commissioner with his letter No.2440

dated

44

dated 18th September 1914, read above.

2. The Sanitary Commissioner and the Director of Public Instruction will now be requested to issue to the members of ~~th~~ the subordinate sanitary and educational staff the instructions necessary to secure the starting of the lectures. The papers will also be communicated to all local bodies with the request that they will co-operate with the above staff in order to make the scheme a success.

3., As the Director of Public Instruction considers that the magic lanterns now supplied to the various educational officers and institutions are adequate for the delivery of the lectures, there is no necessity to adopt the suggestions of the Sanitary Commissioner regarding the purchase of lanterns from Messrs. Newton & Co.

Sd/ W. Francis.
Ag. Secretary to Government.

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" C O P Y "

Personal Assistant
to the Senior Surgeon, M. G.
For Sanitary Commissioner.
(absent from station)

45

S 5375

G. R. S. 26]

File No.

Serial No.

*Diary No. of letter replied to* 3340

No. 7259
Sam 114-15-2
& 28.3.16

General and Revenue Secretariat
( Sanitary )
*the* 191

To

The Sanitary Commissioner

Sir,

*Date of issue* 28.3.16

*Signed by* Asst. M. Sheshadri

With reference to your letter no. 3598 dated the 11th March 1916, submitting proposals for the organisation of popular lectures in hygiene, I am directed to request you to be so good as to forward for reference a copy of the Madras Govt. order no. 2094d, dated the 20th June 14, sanctioning the arrangements for the delivery of popular lectures on Sanitary

*over.*

**SUBJECT.**

48

Subjects in the towns & villages of the Presidency.

I have &c

for Secretary

*List of enclosures*

*Copied by*

*Examined by*

GPB—20,000—10-10-14

D 4189

47

Office of the Sanitary Commissioner
with the Government of Mysore,

No. 4598 Sec 1

Dated, Bangalore, the 20th May 1916.

Sanitary 114-15-3

From

Rao Bahadur Rajakarya Pravina
T.V. Arumugum Mudaliar, Esq., M.B.CM.,
Sanitary Commissioner with the Govt of
H.H. the Maharaja of Mysore, Bangalore.

To

D.M. Narasinga Rao, Esq., B.A., B.L.,
Secretary to the Govt of H.H. the
Maharaja of Mysore, Genl Dept., Bangalore.

Sir,

With reference to your No.7259/San. 114-15-2, dated the 28th March 1916, I have the honor to forward herewith copy of the Madras Government Order No. 2094/L dated the 20th November 1914 referred to therein.

I have the honor to be,

Sir,

Your most obedient servant,

Personal Assistant
to the Senior Surgeon, M.C.,
For Sanitary Commissioner
(absent from station)

GPB—50,000—26-4-15

From IV/384/19 The Sanitary Commissioner in anyore Bangalore

To The Secretary to Govt. Chenlepet

Dated 30 MAY 1916

Despatched

Received

General No. 4598

No.

Enclosure No. One

---

Forwarding Copy of the Madras Govt. order No 209 HP, 20th Nov 1914.

48

-68-15-

G. R. S. 26]

File No.

Serial No. 4

*Diary No. of letter replied to* 4189

No. 9410/Law 114-15-4

87-26. 6. 16.

General and Revenue Secretariat

( Sanitary )

*the* *191* .

To

The Secretary Education Committee

Economic Conference,

Bangalore

Date of issue 26. 6. 16

Signed by Mr B. Subba Rao.

Sir,

I am directed to forward herewith for favour of consideration and suggestions copy of letter No. 3598 dated the 11. March 16, from the Sanitary Commissioner in Mysore, ~~submitting proposals for the~~ organisation of Lectures in Hygiene, ~~digest thereof~~ A copy of the Madras Govt. order No. 2096/L dated the 20 May 1914, on the subject referred

over.

SUBJECT.

E 9

is also forwarded may kindly be returned when done with

Chairman, [redacted] reference and ~~disposition~~

I have to
10/6/16
for Secretary to Govt.
General Dept

19/6

D 1016
19.6.16.

*List of enclosures,*

*Copied by*

*Examined by*

GPB—25,000—4-8-13

Organisation of Popular Lectures in Mysore.

(50)

G.R.S. 28]

File No.

Serial No. 5

Diary No. of letter replied to 4189 / 3340

*Proceedings of the Government of His Highness the Maharaja of Mysore*

GENERAL AND REVENUE SECRETARIAT.
(Sanitary)

*the* 191

READ—

Letter No. 3598 dated the 11th March 1916, from the Sanitary Commissioner submitting proposals for the Organisation of popular lectures in Mysore

Date of issue 15.7.16.

Signed by Mr B Subba Rau

~~ORDER THEREON.~~ No.

and suggesting the formation of a Committee consisting of the Inspector General of Education, the Secretary to the Mysore Economic Conference and the Director of the public Health Institute

*over.*

SUBJECT.

GPB—50,000—1-12-12

The Sanitary Commissioners to arrange for the preparation of model lectures on health subjects and to pass leaflets and pamphlets for publication and generally to consider all matters on which inter-departmental co-operation would further the object in view.

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Order 412-5 San/114-15-5 9.11.16

The Sanitary Commissioners suggestion Commends itself to Govt. and he is requested to take necessary steps to organise the Committee with the officers suggested by him and arrange to start work at once.

2. ~~The~~ He is further requested to submit, when the scheme comes into operation, a monthly report showing the number of lectures delivered by each of the Sanitary officers, during the previous month.

10.11.16.

for Secretary to Govt.
General Department

The Sanitary Commr
D. I. of Education
Secretary to Govt. Economic Conference
Director of public Health Institute & Sanitary Com

GEN. & REV. DEPTT.
5 SEP 1916

52

WD 186—GPB—1,000—27-7-16

No. 945 Encs. 2
E. C.

MYSORE ECONOMIC CONFERENCE,

*Dated Bangalore,* September 4, 1916.

ma D 858
769 San 114-15-6

FROM

V. SUBRAHMANYA IYER, ESQ., B.A.,
*Secretary, Education Committee.*

To

D. M. Narasinga Rao, Esq., B.A., B.L.,
Secretary to Government,
General Department.

SIR,

W With reference to your letter No.9410/Sany.114-15-4 dated the 26th June 1916 calling for the suggestions of the Committee on the proposals of the Sanitary Commissioner in Mysore for the organisation of popular lectures in hygiene, I am directed to state that the subject was considered at the meeting held on the 26th August 1916 and that the Committee strongly recommend the scheme to be tried.

I am also to add that the Committee suggest the inclusion of Ambulance and First Aid in the list of subjects on which model lessons are proposed to be given.

The copy of the Madras Government Order No.2094/L. dated the 20th November 1914 received with the letter under advertance is returned herewith.

A printed copy of Sanitary Commissioner's letter No.3598 dated the 11th March 1916 together with its enclosures is also submitted for the information of Government.

I have the honour to be,
Sir,
Your most obedient servant,

V Subrahmanya Iyer

SK

Secretary

Popular lectures in Hygiene

1915 18-16

53

G. R. S. 26]

File No. 114-15

Serial No. 7

Diary No. of letter replied to 858

Encl:-
No. 2375
Sam 114-15-
9/18.10.16.

General and Revenue Secretariat
( Sanitary )
the 191 .

To

The Sanitary Commissioner

Sir

Date of issue 19.10.16

Signed by [illegible]

In continuation of Govt. Pr. No. 412-S dt. the 14th July 1916, Sam 114-15-5 I am directed to forward herewith for information a copy of letter No. 915 dated the 4 September 1916, E.C from the Secretary, Education Commn. in the matter of organisation of popular lectures in Hygiene and to request you to be so good as to state the action taken by you

over.

SUBJECT.

19/10/16

52

In fine respect to the scheme

I have the
19
Jurisdictional limit.
General Dept

CT

*List of enclosures*

*Copied by*

*Examined by*

GPB—20,000—10-10-14

D 1449

Office of the Sanitary Commissioner
with the Govt., of Mysore,

No. GC207-2 Dated, Bangalore, 6th November 1916.

From,

Rajakaryapravina Rao Bahadur
T.V.Arumugum Mudaliar, Esq., M.B.C.M.,
Sanitary Commissioner to the Govt., of
H.H.the Maharaja of Mysore, Bangalore.

San 114-15-8

To

D.M.Narasinga Rao, Esq., B.A.,B.L.,
Secretary to the Government of H.H.the
Maharaja of Mysore. General Deptt.,Bangalore.

Sir,

In reply to your letter No.2375 San. 114-15-7, dated, the 18th October 1916, I have the honor to report that the first meeting of the Committee appointed by Government for the organisation of popular lectures in Hygiene was held on the 8th August 1916 and enclosed is a copy of the memorandum detailing the business transacted. In pursuance thereof, the Deputy Sanitary Commissioner has addressed the Inspector General of Education in the matter of the preparation of lantern slides on Health subjects and ~~has~~ asked the District Sanitary Officers to prepare and send up one or more lectures, presumably for publication. But it seems to me that the most important item on the programme Viz., the preparation of <u>model lectures</u> on the lines adopted in Madras is rather obscured by the resolutions of the Committee. Lectures prepared by District Sanitary Officers may do well as pamphlets or leaflets intended for casual, desultory reading by the public, but certainly cannot be treated as models for adoption by itinerant lecturers and school masters. It is necessary

that

GPB—50,000—25-4-15

19

From The Sanitary Commissioner
for Mysore
Bangalore

8 NOV 1916

To The Secretary to Govt
Genl. Deptt
Bangalore

Dated 6. 11. 16

Despatched

Received

General No. G.C 207-2

No.

Enclosure No. 1

Reporting the action taken for the
organisation of Sanitary lectures

that the lectures, to be model, should be co-related and should, for this purpose and to bear a uniform impress, be prepared by one and the same officer. My meaning will be clear if, for instance, any of the pamphlets submitted to Government some time ago by the Malnad Improvement Committee is compared with the syllabuses so far approved by the Madras Government. It was to secure this object that I recommended in my letter No.3598 dated the 11th March 1916 that the Director of the Public Health Institute & Deputy Sanitary Commissioner should, as far as possible, write out the model lectures. All "Model" lectures should emanate from the Public Health Institute.

I have the honor to be,

Sir,

Your most obedient servant,

Sanitary Commissioner.

Enc to San 1164-15-8 (5)

M e m o r a n d u m.

A meeting of the committee appointed by the Government for organising lectures on sanitary subjects, was convened on the 8th. August 1916 at 3 P. M. Mr. D'Souza and Dr. Srinivasa Rao were present. The Inspector General of Education was absent on the occasion.

The following business was transacted:

Mr. D'Souza suggested that Dr. M. Srinivasa Rao's 2 pamphlets on Hygiene now for sale at the Government Book Depot should be sent to the Education Committee of the Economic Conference, for being translated into Kannada.

It was resolved to ask all the District Health Officers to write out a lecture in Kannada on one or more of specified subjects.

If any Health Officers wished to write lectures in English, they may be asked to do so. Such lectures may be sent to the Education Committee of the Economic Conference for translation and printing.

It was resolved to find out if lantern slides on hygienic subjects can be prepared locally. The Inspector General of Education may be requested to spare the services of Mr. Vedanta Iyengar of the Educational Department for this purpose.

It was resolved to ask the Government of Mysore to place the sum of Rs. 1,000 at the disposal of the Committee for the above purpose.

If Cinematograph films cannot be prepared by Mr. Vedanta Iyengar, they can be hired by the week or by the month from recognised firms.

Sd. M. Srinivasa Rao,

Sd. P. G. D'Souza

"C o p y"

Sanitary Commissioner.

3 Pocket-lectures in Hygiene
26/12 6 copies

(58)

G.R.S. 28]

File No. 114-15
Serial No. 11

Diary No. of letter replied to 1449

*Proceedings of the Government of His Highness the Maharaja of Mysore*

GENERAL AND REVENUE SECRETARIAT.
(Sanitary)

*the* 191

READ—

Letter No. H. C 207-2 dated the 6th November 1916, from the Sanitary Commissioner, submitting for information a copy of memo

Date of issue 2.1.17

Signed by Mr B. Sadasiva Rau

ORDER THEREON. ~~No.~~

detailing the business transacted by the Committee appointed by for the Organisation of popular lectures in Hygiene and suggesting that the Director of Public

*over.*

May this be

i printed?

ii treated as a standing order?

iii published in the Gazette English part?

iv translated?

v placed at the disposal of the Press?

vi published in the Gazette Kannada part?

SUBJECT.

GPB—50,000—1-12-12

5

Health Institute by Sanitary Commr
may be asked to write out the
model lectures, as the lectures
prepared by the District Sanitary officers
will serve as templets for casual readers

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Order 4874-8 Sani/14-15—11 dt 2.1.17

Government direct that the
popular lecture scheme should
be worked up by the District Sanitary
officers, three one or two model
lectures being prepared by the
~~Director of public Health Institute~~
Dy Sanitary Commr for guidance and
A sum of Rs ~~One~~ Thousand is sanctioned and
be placed at the disposal of the
Committee for supplying magic
lanthorn & a number well
chosen slides on hygienic subjects to each of the
District Sanitary officers, the ~~charge~~
amount being met debitable to the
provision of Rs 1500/- made under
the head "2 public Health Institute
to public lectures & demonstrations
in the current year's budget.

D.M.

To The Sanitary Commr
Bombay
D.I. of Education
Secretary to the
Bijapur Economic
conference.
Director of public
Health Institute
Kamptee